

SEQUENCE LISTING

<110> Fernandez-Salas, Ester
 Garay, Patton
 Aoki, Kei Roger

<120> Botulinum Toxin Screening Assays

<130> 17596 (BOT)

<150> US 60/547,591

<151> 2004-02-24

<160> 32

<170> FastSEQ for Windows Version 4.0

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<211> 2427

<212> DNA

<213> Homo sapiens FGFR3IIIb

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<211> 808
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<213> Homo sapiens FGFR3IIIb

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Gly Arg Ala Ala Glu Val Pro Gly Pro Glu Pro Gly Gln Gln Glu Gln
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Leu Val Phe Gly Ser Gly Asp Ala Val Glu Leu Ser Cys Pro Pro Pro
50     55     60
Gly Gly Gly Pro Met Gly Pro Thr Val Trp Val Lys Asp Gly Thr Gly
65     70     75     80
Leu Val Pro Ser Glu Arg Val Leu Val Gly Pro Gln Arg Leu Gln Val
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<210> 4

<211> 806

<212> PRT

<213> Homo sapiens FGFR3IIIC

<400> 4

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          20          25          30
Gly Arg Ala Ala Glu Val Pro Gly Pro Glu Pro Gly Gln Gln Glu Gln
          35          40          45
Leu Val Phe Gly Ser Gly Asp Ala Val Glu Leu Ser Cys Pro Pro Pro
 50          55          60
Gly Gly Gly Pro Met Gly Pro Thr Val Trp Val Lys Asp Gly Thr Gly
65          70          75          80
Leu Val Pro Ser Glu Arg Val Leu Val Gly Pro Gln Arg Leu Gln Val
          85          90          95
Leu Asn Ala Ser His Glu Asp Ser Gly Ala Tyr Ser Cys Arg Gln Arg
          100          105          110
Leu Thr Gln Arg Val Leu Cys His Phe Ser Val Arg Val Thr Asp Ala
          115          120          125
Pro Ser Ser Gly Asp Asp Glu Asp Gly Glu Asp Glu Ala Glu Asp Thr
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Gly Val Asp Thr Gly Ala Pro Tyr Trp Thr Arg Pro Glu Arg Met Asp
145          150          155          160
Lys Lys Leu Leu Ala Val Pro Ala Ala Asn Thr Val Arg Phe Arg Cys
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Pro Ala Ala Gly Asn Pro Thr Pro Ser Ile Ser Trp Leu Lys Asn Gly
          180          185          190
Arg Glu Phe Arg Gly Glu His Arg Ile Gly Gly Ile Lys Leu Arg His
          195          200          205
Gln Gln Trp Ser Leu Val Met Glu Ser Val Val Pro Ser Asp Arg Gly
          210          215          220
Asn Tyr Thr Cys Val Val Glu Asn Lys Phe Gly Ser Ile Arg Gln Thr
225          230          235          240
Tyr Thr Leu Asp Val Leu Glu Arg Ser Pro His Arg Pro Ile Leu Gln
          245          250          255
Ala Gly Leu Pro Ala Asn Gln Thr Ala Val Leu Gly Ser Asp Val Glu
          260          265          270
Phe His Cys Lys Val Tyr Ser Asp Ala Gln Pro His Ile Gln Trp Leu
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Lys His Val Glu Val Asn Gly Ser Lys Val Gly Pro Asp Gly Thr Pro
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Tyr Val Thr Val Leu Lys Thr Ala Gly Ala Asn Thr Thr Asp Lys Glu
305          310          315          320
Leu Glu Val Leu Ser Leu His Asn Val Thr Phe Glu Asp Ala Gly Glu
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Tyr Thr Cys Leu Ala Gly Asn Ser Ile Gly Phe Ser His His Ser Ala
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Gly Cys Phe Gly Gln Val Val Met Ala Glu Ala Ile Gly Ile Asp Lys
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Asp Arg Ala Ala Lys Pro Val Thr Val Ala Val Lys Met Leu Lys Asp
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Asp Leu Val Ser Cys Ala Tyr Gln Val Ala Arg Gly Met Glu Tyr Leu
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Ala Ser Gln Lys Cys Ile His Arg Asp Leu Ala Ala Arg Asn Val Leu
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Val Thr Glu Asp Asn Val Met Lys Ile Ala Asp Phe Gly Leu Ala Arg
625              630              635              640
Asp Val His Asn Leu Asp Tyr Tyr Lys Lys Thr Thr Asn Gly Arg Leu
645              650              655
Pro Val Lys Trp Met Ala Pro Glu Ala Leu Phe Asp Arg Val Tyr Thr
660              665              670
His Gln Ser Asp Val Trp Ser Phe Gly Val Leu Leu Trp Glu Ile Phe
675              680              685
Thr Leu Gly Gly Ser Pro Tyr Pro Gly Ile Pro Val Glu Glu Leu Phe
690              695              700
Lys Leu Leu Lys Glu Gly His Arg Met Asp Lys Pro Ala Asn Cys Thr
705              710              715              720
His Asp Leu Tyr Met Ile Met Arg Glu Cys Trp His Ala Ala Pro Ser
725              730              735
Gln Arg Pro Thr Phe Lys Gln Leu Val Glu Asp Leu Asp Arg Val Leu
740              745              750
Thr Val Thr Ser Thr Asp Glu Tyr Leu Asp Leu Ser Ala Pro Phe Glu
755              760              765
Gln Tyr Ser Pro Gly Gly Gln Asp Thr Pro Ser Ser Ser Ser Gly
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<210> 5

<211> 2085

<212> DNA

<213> Homo sapiens FGFR3IIIS

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<210> 6

<211> 694

<212> PRT

<213> Homo sapiens FGFR3IIIS

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           20           25           30
Gly Arg Ala Ala Glu Val Pro Gly Pro Glu Pro Gly Gln Gln Glu Gln
 35           40           45
Leu Val Phe Gly Ser Gly Asp Ala Val Glu Leu Ser Cys Pro Pro Pro
 50           55           60
Gly Gly Gly Pro Met Gly Pro Thr Val Trp Val Lys Asp Gly Thr Gly
 65           70           75           80
Leu Val Pro Ser Glu Arg Val Leu Val Gly Pro Gln Arg Leu Gln Val
           85           90           95
Leu Asn Ala Ser His Glu Asp Ser Gly Ala Tyr Ser Cys Arg Gln Arg
          100          105          110
Leu Thr Gln Arg Val Leu Cys His Phe Ser Val Arg Val Thr Asp Ala
          115          120          125
Pro Ser Ser Gly Asp Asp Glu Asp Gly Glu Asp Glu Ala Glu Asp Thr
          130          135          140
Gly Val Asp Thr Gly Ala Pro Tyr Trp Thr Arg Pro Glu Arg Met Asp
          145          150          155          160
Lys Lys Leu Leu Ala Val Pro Ala Ala Asn Thr Val Arg Phe Arg Cys
          165          170          175
Pro Ala Ala Gly Asn Pro Thr Pro Ser Ile Ser Trp Leu Lys Asn Gly
          180          185          190
Arg Glu Phe Arg Gly Glu His Arg Ile Gly Gly Ile Lys Leu Arg His
          195          200          205
Gln Gln Trp Ser Leu Val Met Glu Ser Val Val Pro Ser Asp Arg Gly
          210          215          220
Asn Tyr Thr Cys Val Val Glu Asn Lys Phe Gly Ser Ile Arg Gln Thr
          225          230          235          240
Tyr Thr Leu Asp Val Leu Glu Arg Ser Pro His Arg Pro Ile Leu Gln
          245          250          255
Ala Gly Leu Pro Ala Asn Gln Thr Ala Val Leu Gly Ser Asp Val Glu
          260          265          270
Phe His Cys Lys Val Tyr Ser Asp Ala Gln Pro His Ile Gln Trp Leu
          275          280          285
Lys His Val Glu Val Asn Gly Ser Lys Val Gly Pro Asp Gly Thr Pro
          290          295          300
Tyr Val Thr Val Leu Lys Val Ser Leu Glu Ser Asn Ala Ser Met Ser
          305          310          315          320
Ser Asn Thr Pro Leu Val Arg Ile Ala Arg Leu Ser Ser Gly Glu Gly
          325          330          335
Pro Thr Leu Ala Asn Val Ser Glu Leu Glu Leu Pro Ala Asp Pro Lys
          340          345          350
Trp Glu Leu Ser Arg Ala Arg Leu Thr Leu Gly Lys Pro Leu Gly Glu
          355          360          365
Gly Cys Phe Gly Gln Val Val Met Ala Glu Ala Ile Gly Ile Asp Lys
          370          375          380
Asp Arg Ala Ala Lys Pro Val Thr Val Ala Val Lys Met Leu Lys Asp
          385          390          395          400
Asp Ala Thr Asp Lys Asp Leu Ser Asp Leu Val Ser Glu Met Glu Met
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 Val Thr Glu Asp Asn Val Met Lys Ile Ala Asp Phe Gly Leu Ala Arg
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 His Gln Ser Asp Val Trp Ser Phe Gly Val Leu Leu Trp Glu Ile Phe
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 Thr Leu Gly Gly Ser Pro Tyr Pro Gly Ile Pro Val Glu Glu Leu Phe
 580 585 590
 Lys Leu Leu Lys Glu Gly His Arg Met Asp Lys Pro Ala Asn Cys Thr
 595 600 605
 His Asp Leu Tyr Met Ile Met Arg Glu Cys Trp His Ala Ala Pro Ser
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 Gln Arg Pro Thr Phe Lys Gln Leu Val Glu Asp Leu Asp Arg Val Leu
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<210> 7

<211> 2409

<212> DNA

<213> Bos taurus FGFR3IIIC

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<212> PRT

<213> Mus musculus FGFR3IIIC

<400> 12

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Pro	Tyr	Trp	Thr	Arg	Pro	Glu	Arg	Met	Asp	Lys	Lys	Leu	Leu	Ala	Val

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Pro	Ala	Ala	Asn	Thr	Val	Arg	Phe	Arg	Cys	Pro	Ala	Ala	Gly	Asn
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Thr	Pro	Ser	Ile	Ser	Trp	Leu	Lys	Asn	Gly	Lys	Glu	Phe	Arg	Gly
			180					185					190	
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Asn	Ser	Ile	Gly	Phe	Ser	His	His	Ser	Ala	Trp	Leu	Val	Val	Leu
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Ala	Glu	Glu	Glu	Leu	Met	Glu	Thr	Asp	Glu	Ala	Gly	Ser	Val	Tyr
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Gly	Val	Leu	Ser	Tyr	Gly	Val	Val	Phe	Phe	Leu	Phe	Ile	Leu	Val
	370				375					380				Val
Ala	Ala	Val	Ile	Leu	Cys	Arg	Leu	Arg	Ser	Pro	Pro	Lys	Lys	Gly
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Arg	Leu	Thr	Leu	Gly	Lys	Pro	Leu	Gly	Glu	Gly	Cys	Phe	Gly	Gln
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Leu	Arg	Ala	Arg	Arg	Pro	Pro	Gly	Met	Asp	Tyr	Ser	Phe	Asp	Ala
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Arg	Leu	Pro	Glu	Gln	Leu	Thr	Cys	Lys	Asp	Leu	Val	Ser	Cys	Ala
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<213> Mus musculus FGFR3III-delAcid
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<211> 782

<212> PRT

<213> Mus musculus FGFR3III-delAcid

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Phe Gly Ser Gly Asp Thr Val Glu Leu Ser Cys His Pro Pro Gly Gly

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Ala Ser His Glu Asp Ala Gly Val Tyr Ser Cys Gln His Arg Leu Thr		
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Arg Arg Val Leu Cys His Phe Ser Val Arg Val Thr Gly Ala Pro Tyr		
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Ala Asn Thr Val Arg Phe Arg Cys Pro Ala Ala Gly Asn Pro Thr Pro		
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Ser Ile Ser Trp Leu Lys Asn Gly Lys Glu Phe Arg Gly Glu His Arg		
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Ser Pro His Arg Pro Ile Leu Gln Ala Gly Leu Pro Ala Asn Gln Thr		
225	230	235
Ala Ile Leu Gly Ser Asp Val Glu Phe His Cys Lys Val Tyr Ser Asp		
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Ala Gln Pro His Ile Gln Trp Leu Lys His Val Glu Val Asn Gly Ser		
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Lys Val Gly Pro Asp Gly Thr Pro Tyr Val Thr Val Leu Lys Thr Ala		
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Leu Glu Leu Pro Ala Asp Pro Lys Trp Glu Leu Ser Arg Thr Arg Leu		
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Thr Leu Gly Lys Pro Leu Gly Glu Gly Cys Phe Gly Gln Val Val Met		
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Ala Glu Ala Ile Gly Ile Asp Lys Asp Arg Thr Ala Lys Pro Val Thr		
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<210> 16

<211> 802

<212> PRT

<213> Rattus norvegicus FGFR3IIIb

<400> 16

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Phe Gly Ser Gly Asp Thr Val Glu Leu Ser Cys His Pro Pro Gly Gly
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Ala Pro Thr Gly Pro Thr Leu Trp Ala Lys Asp Gly Val Gly Leu Val
 65          70          75          80
Ala Ser His Arg Ile Leu Val Gly Pro Gln Arg Leu Gln Val Leu Asn
 85          90          95
Ala Thr His Glu Asp Ala Gly Val Tyr Ser Cys Gln Gln Arg Leu Thr
100          105          110
Arg Arg Val Leu Cys His Phe Ser Val Arg Val Thr Asp Ala Pro Ser
115          120          125
Ser Gly Asp Asp Glu Asp Gly Glu Asp Val Ala Glu Asp Thr Gly Ala
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Pro Tyr Trp Thr Arg Pro Glu Arg Met Asp Lys Lys Leu Leu Ala Val
145          150          155          160
Pro Ala Ala Asn Thr Val Arg Phe Arg Cys Pro Ala Ala Gly Asn Pro
165          170          175
Thr Pro Ser Ile Pro Trp Leu Lys Asn Gly Lys Glu Phe Arg Gly Glu
180          185          190
His Arg Ile Gly Gly Ile Lys Leu Arg His Gln Gln Trp Ser Leu Val
195          200          205
Met Glu Ser Val Val Pro Ser Asp Arg Gly Asn Tyr Thr Cys Val Val
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Glu Asn Lys Phe Gly Ser Ile Arg Gln Thr Tyr Thr Leu Asp Val Leu
225          230          235          240
Glu Arg Ser Pro His Arg Pro Ile Leu Gln Ala Gly Leu Pro Ala Asn
245          250          255
Gln Thr Ala Val Leu Gly Ser Asp Val Glu Phe His Cys Lys Val Tyr
260          265          270
Ser Asp Ala Gln Pro His Ile Gln Trp Leu Lys His Val Glu Val Asn
275          280          285
Gly Ser Lys Val Gly Pro Asp Gly Thr Pro Tyr Val Thr Val Leu Lys
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Ser Trp Ile Ser Glu Asn Val Glu Ala Asp Ala Arg Leu Arg Leu Ala
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Asn Val Ser Glu Arg Asp Gly Gly Glu Tyr Leu Cys Arg Ala Thr Asn
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Phe Ile Gly Val Ala Glu Lys Ala Phe Trp Leu Arg Val His Gly Pro
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Lys Pro Val Thr Val Ala Val Lys Met Leu Lys Asp Asp Ala Thr Asp
      500      505      510
Lys Asp Leu Ser Asp Leu Val Ser Glu Met Glu Met Met Lys Met Ile
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Glu Phe Leu Arg Ala Arg Arg Pro Pro Gly Met Asp Tyr Ser Phe Asp
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Ala Cys Arg Leu Pro Glu Glu Gln Leu Thr Cys Lys Asp Leu Val Ser
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Cys Ile His Arg Asp Leu Ala Ala Arg Asn Val Leu Val Thr Glu Asp
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Ser Pro Tyr Pro Gly Ile Pro Val Glu Glu Leu Phe Lys Leu Leu Lys
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Met Ile Met Arg Glu Cys Trp His Ala Val Pro Ser Gln Arg Pro Thr
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Phe Lys Gln Leu Val Glu Asp Leu Asp Arg Ile Leu Thr Val Thr Ser
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Thr Asp Glu Tyr Leu Asp Leu Ser Val Pro Phe Glu Gln Tyr Ser Pro
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Gly Gly Gln Asp Thr Pro Ser Ser Ser Ser Ser Gly Asp Asp Ser Val
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<210> 17

<211> 2403

<212> DNA

<213> Rattus norvegicus FGFR3IIIC

<400> 17

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<211> 800

<212> PRT

<213> Rattus norvegicus FGFR3IIIC

<400> 18

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Ala	Ala	Glu	Val	Pro	Gly	Pro	Glu	Pro	Ser	Gln	Gln	Glu	Gln	Val	Ala	35	40	45	
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Tyr Tyr Lys Lys Thr Thr	Asn Gly Arg Leu Pro	Val Lys Trp Met Ala
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Pro Glu Ala Leu Phe Asp	Arg Val Tyr Thr His	Gln Ser Asp Val Trp
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Ser Phe Gly Val Leu Leu	Trp Glu Ile Phe Thr	Leu Gly Gly Ser Pro
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His Arg Met Asp Lys Pro	Ala Asn Cys Thr His	Asp Leu Tyr Met Ile
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Met Arg Glu Cys Trp His	Ala Val Pro Ser Gln	Arg Pro Thr Phe Lys
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Gln Leu Val Glu Asp Leu	Asp Arg Ile Leu Thr	Val Thr Ser Thr Asp

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<212> DNA
<213> Gallus gallus FGFR3
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<210> 20

<211> 806

<212> PRT

<213> Gallus gallus FGFR3

<400> 20

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Pro	Ser	Asn	Arg	Thr	His	Ile	Gly	Gln	Lys	Leu	Leu	Lys	Ile	Ile	Asn	85	90	95	
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Pro	Phe	Trp	Thr	Arg	Pro	Asp	Lys	Met	Glu	Lys	Lys	Leu	Leu	Ala	Val	145	150	155	160
Pro	Ala	Ala	Asn	Thr	Val	Arg	Phe	Arg	Cys	Pro	Ala	Gly	Gly	Asn	Pro	165	170	175	
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32

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<213> *Xenopus laevis* FGFR3-1

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<211> 827

<212> PRT

<213> *Xenopus laevis* FGFR3-1

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